

CLAIMS AMENDMENT

Please amend the Claims as follows:

1. (currently amended) A composite plastics composition comprising a particulate crosslinked polymer dispersed within a thermoplastic matrix, wherein:

(a) the composite plastics composition comprises 10 to 45 weight percent of the crosslinked polymer, based on the weight of the composite plastics composition, and the crosslinked polymer has a particle size substantially from 0.2 to 1.2 millimeters;

(b) the crosslinked polymer comprises 0.1 to 15 weight percent inert filler and 0.1 to 20 weight percent crosslinker, based on the total weight of crosslinked polymer; and

(c) the crosslinked polymer is visually differentiable from the thermoplastic matrix,

wherein the thermoplastic matrix comprises a mixture of 25 or more weight percent poly(alkyl (meth)acrylate) and up to 75 weight percent impact modifier, based on the weight of thermoplastic matrix and

wherein the impact modifier ~~contains an elastomeric polymer~~ is a multi-stage sequentially-produced polymer containing an elastomeric stage, and

wherein the composition is capable of multiple passes through extrusion or molding.

2. (cancelled)

3. (previously presented) A composite plastics composition according to claim 1 wherein the poly(alkyl (meth)acrylate) comprises a copolymer of 80 to 99 weight percent methyl methacrylate monomer units and 1 to 20 weight percent (C₁-C₁₀)alkyl acrylate monomer units, based on total weight of the poly(alkyl (meth)acrylate).
4. (cancelled)
5. (cancelled)
6. (cancelled)
7. (currently amended) A composite plastic composition according to claim 1 wherein the thermoplastic matrix ~~(meth)acrylic monomer~~ is selected from one or more of methyl methacrylate, methyl acrylate, ethyl acrylate, acrylic acid and butyl methacrylate.
8. (cancelled)
9. (previously presented) A composite plastics composition according to Claim 1 wherein the inert filler is selected from one or more of titanium dioxide, iron oxide, alumina, pigments, carbon black and silica.
10. (previously presented) A composite plastics composition according to Claim 1 wherein the particle size of the crosslinked polymer is substantially from 0.3 to 1.2 millimeters.

11. (currently amended) A composite plastics composition comprising a particulate crosslinked polymer dispersed within a thermoplastic matrix, wherein:

(a) the composite plastics composition comprises more than 20 and up to 45 weight percent of the crosslinked polymer, based on the weight of the composite plastics composition, and the crosslinked polymer has a particle size substantially from 0.3 to 1.2 millimeters;

(b) the crosslinked polymer comprises

(i) from 95 to 99.5 weight percent ~~methyl methacrylate~~ monomer units selected from one or more of methyl methacrylate, ethyl acrylate and acrylic acid;

(ii) from 0.5 to 5 weight percent crosslinker units selected from one or more of allyl methacrylate, ethylene glycol dimethacrylate and divinylbenzene; and

(iii) from 0.3 to 5 weight percent inert filler selected from one or more of titanium dioxide, iron oxide, alumina, pigments, carbon black and silica based on the total weight of crosslinked polymer;

(c) the thermoplastic matrix comprises

(i) 50 to 60 weight percent poly(alkyl (meth)acrylate) and 1 to 20 weight percent (C₁-C₁₀)alkyl acrylate monomer units, based on total weight of the poly(alkyl (meth)acrylate); and

(ii) 40 to 50 weight percent impact modifier comprising at multi-stage sequentially produced polymer containing an elastomeric stage, based on the weight of thermoplastic matrix; and

(d) the crosslinked polymer is visually differentiable from the thermoplastic matrix.

12. (previously presented) A process for preparing a composite plastics composition comprising:

(a) preparing a crosslinked polymer comprising 0.1 to 15 weight percent inert filler and 0.1 to 20 weight percent crosslinker, based on the weight of crosslinked polymer;

(b) comminuting the crosslinked polymer to particles having a particle size substantially from 0.2 to 1.2 millimeters;

(c) dispersing 10 to 45 weight percent of the particles of crosslinked polymer within 55 to 90 weight percent of a thermoplastic matrix by a heat processing treatment; and

(d) recovering the composite plastics composition as a particulate material, wherein the thermoplastic matrix comprises a mixture of 25 or more weight percent poly(alkyl (meth)acrylate) and up to 75 weight percent impact modifier, based on the weight of thermoplastic matrix and

wherein the impact modifier is a multi-stage sequentially-produced polymer containing an elastomeric stage, and

wherein the composition is capable of being extruded or injection molded.

13. (original) A process according to claim 12 wherein the particles of step (b) have a particle size substantially from 0.3 to 1.2 millimeters.

14. (previously presented) A process according to claim 12 wherein the heat processing treatment of step (c) is selected from one or more of extrusion blending, hot-melt kneading and hot-melt batch mixing.
15. (previously presented) A composite plastics composition prepared by the process claimed in Claim 12.
- 16 (previously presented) A process for preparing a simulated mineral article comprising forming, with heat treatment of a composite plastics composition as claimed in Claim 1 into a sheet, laminated sheet or molded material.
17. (original) A process according to claim 16 wherein the heat treatment is selected from the group consisting of melt extrusion, coextrusion, blow molding, sheet forming and thermoforming.
18. (previously presented) An extruded sheet material resulting from extrusion of a composite plastics composition as claimed in Claim 1.
19. (previously presented) A thermoformed product of a composite plastics composition as claimed in Claim 1.
20. (previously presented) A composite plastics composition comprising a particulate crosslinked polymer dispersed within a thermoplastic matrix, wherein:

- (a) the composite plastics composition comprises 10 to 45 weight percent of the crosslinked polymer, based on the weight of the composite plastics composition, and the crosslinked polymer has a particle size substantially from 0.2 to 1.2 millimeters;
- (b) the crosslinked polymer comprises (i) 90 to 99.5 weight percent monomer units selected from one or more of vinyl aromatic monomer and (meth)acrylic monomer, (ii) 0.5 to 10 weight percent crosslinker, based on the weight of crosslinked polymer, wherein the crosslinker is one or more of allyl methacrylate, ethylene glycol dimethacrylate and divinylbenzene, and (iii) 0.1 to 15 weight percent inert filler, based on the total weight of crosslinked polymer;
and
- (c) the crosslinked polymer is visually differentiable from the thermoplastic matrix, wherein the thermoplastic matrix comprises a mixture of 25 or more weight percent poly(alkyl (meth)acrylate) and up to 75 weight percent impact modifier, based on the weight of thermoplastic matrix and
wherein the impact modifier is a multi-stage sequentially-produced polymer containing an elastomeric stage, and
wherein the composition is capable of multiple passes through extrusion or molding.